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~~8.~~ In a device for trapping particles in an electric field formed by electrodes the improvement comprising: means for detecting the presence of trapped particles,

5                   said means including the detection of impedance changes between the electrodes.

9. The improvement of Claim 8, wherein said means comprises a sensor for measuring impedance change between the electrodes.

10                   10. The improvement of Claim 9, wherein said electrodes comprise plates of interdigitated electrodes and wherein said sensor is operatively connected to said plates.

15                   11. The improvement of Claim 9, wherein said sensor comprises:  
 a pair of signal generators, a current sensor connected to one of said electrodes, a pair of parallel connected amplifier/mixer assemblies operatively connected to said current sensor, said pair of signal generators being operatively connected to a mixer of said amplifier/mixer assemblies, with one of said pair of signal generators being also operatively connected to another electrode.

~~12.~~ A method for detecting the presence of pathogens trapped in an electric field, comprising:

20                   providing at least one fluid channel through which the pathogens pass,  
                       providing at least one pair of interdigitated electrodes on a surface of the fluid channel,

                      providing an AC voltage across the interdigitated electrodes for producing an electric field for trapping pathogens,

25                   measuring the impedance between the electrodes and,  
                       determining change in the impedance measurements.

13. The method of Claim 12, additionally including determining from the change in the impedance if sufficient pathogens have been trapped to further analyze the pathogens.

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15. The method of Claim 12, wherein measuring the impedance between the electrodes is carried out using an impedance sensor operatively connected to said electrodes.